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SMALL-SCALE BIO-OPTICAL AND BIO-ACOUSTICAL DISTRIBUTIONS IN THE UPPER OCEAN (AASERT)

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LONG-TERM GOALS

Our long-term goal is to quantify the interactions between small-scale biological and physical processes within the upper ocean. This project addresses that goal by providing support for a graduate student to assist in field work, sample analysis, and data processing and analysis within the parent project "Contribution of small-scale bio-optical and bio-acoustical distributions and variability in upper ocean processes."

OBJECTIVES

Our objective is to train graduate students to think critically about scientific questions, and to develop the skills to address well-formed questions with the appropriate analytical tools. This ASSERT project permits Ms. Lisa Eisner, a graduate student in Biological Oceanography, to work with newly-developed, state-of-the-art bio-optical and bio-acoustical instrumentation, and provides the opportunity for her to participate in the growth of an important new research area within biological oceanography.

APPROACH

Ms. Eisner is working with bio-optical data obtained from a time-series of high-resolution vertical profiles (2-3 cm vertical resolution) in East Sound, Orcas Island, WA. Ms. Eisner is examining, using data analysis software, patterns of occurrence of thin planktonic layers in association with distinct physical properties. She will participate in the 1998 field work in East Sound.

WORK COMPLETED

Ms. Eisner is taking graduate coursework in oceanography and gaining familiarity with our large data sets of high-resolution profiles of physical and bio-optical properties. She

participated in a two-week field experiment and obtained valuable experience with the profiling system. She is investigating approaches for inverting spectral absorption and fluorescence data into taxonomic categories.

RESULTS

The data analysis by Ms. Eisner is expected to lead to a presentation at a national meeting during the next year. No specific scientific results are available to report at this stage of her graduate education.

IMPACT

Little at this time.

TRANSITIONS

Not applicable at this time.

RELATED PROJECTS

This AASERT proposal is linked to the field efforts of the following ONR Principal Investigators:

Dr. J. Ronald Zaneveld, Oregon State University
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